Appendix of Claims

1. **(Currently Amended)** A superconducting electric motor comprising:

a rotor assembly including:

[~~at least one~~] a superconducting winding [~~which~~] that, in operation, generates a flux path within the rotor assembly[~~; and~~],

a laminated support member [~~which~~] that supports the [~~at least one~~] superconducting winding, and

an induction structure to support induction current for driving the motor in a steady-state induction mode;

the rotor assembly being configured to operate

in a synchronous mode [~~of operation~~] at temperatures [~~wherein~~] in which the superconducting winding exhibits superconducting characteristics, and

in a steady-state induction mode [~~of operation~~] at temperatures [~~wherein~~] in which the superconducting winding exhibits non-superconducting characteristics.

2. **(Cancel)** ~~The superconducting electric motor of claim 1 wherein the rotor assembly includes induction structure for carrying current at levels sufficient to allow the steady-state induction mode of operation.~~

3. **(Currently Amended)** The superconducting electric motor of claim **1**, wherein the [~~rotor assembly includes~~] induction structure is configured to allow the superconducting motor to generate a starting torque [~~which~~] that is at least 50% of the rated torque in the steady-state induction mode [~~of operation~~].

4. **(Currently Amended)** The superconducting electric motor of claim **3**, wherein the [~~rotor assembly includes~~] induction structure is configured to allow the superconducting motor to generate a peak torque [~~which~~] that is approximately twice the rated torque in the steady-state induction mode [~~of operation~~].

5. **(Currently Amended)** The superconducting electric motor of claim **4**, wherein [~~at least~~] a portion of the induction structure is spaced from the [~~at least one~~] superconducting winding by a thermal isolation vacuum region.

6. **(Currently Amended)** The superconducting electric motor of claim **5**, wherein said [~~at least~~] portion of the induction structure spaced from the [~~at least one~~] superconducting winding by a thermal isolation vacuum region includes an electromagnetic shield member.

7. **(Currently Amended)** The superconducting electric motor of claim **6**, further comprising a cryostat positioned between the thermal isolation vacuum region and the induction structure.

8. **(Currently Amended)** The superconducting electric motor of claim **6**, wherein said electromagnetic shield member includes a conductive, non-magnetic material.

9. **(Currently Amended)** The superconducting electric motor of claim **4**, wherein the induction structure includes the laminated support member [~~which supports the at least one superconducting winding~~].

10. **(Currently Amended)** The superconducting electric motor of claim **9**, wherein the induction structure further includes an electromagnetic shield spaced from the [~~at least one~~] superconducting winding by a thermal isolation vacuum region.

11. **(Currently Amended)** The superconducting electric motor of claim **10**, wherein the laminated support member includes [~~a plurality of~~] laminations[~~, each lamination~~] lying

in a plane parallel to magnetic field flux lines extending through the laminations during operation of the superconducting electric motor.

12. **(Currently Amended)** The superconducting electric motor of claim 1, further comprising:

a stator assembly electromagnetically coupled to the rotor assembly; and

an adjustable speed drive that provides an electrical signal to the stator assembly.

13. **(Currently Amended)** The superconducting electric motor of claim 12, wherein the adjustable speed drive provides the stator assembly with a signal at a first frequency [~~to the stator~~] to start the superconducting motor in the synchronous mode [~~of operation~~] and provides the stator assembly with a signal at a second frequency[~~, less than the first frequency, to the stator~~] to operate the motor in the steady-state induction mode [~~of operation~~], the second frequency being less than the first frequency.

14. **(Currently Amended)** The superconducting electric motor of claim 1, wherein the superconducting winding includes a high temperature superconductor.

15. **(Currently Amended)** The superconducting electric motor of claim 1, wherein the superconducting winding comprises [~~is~~] a racetrack-shaped winding.

16. **(Currently Amended)** The superconducting electric motor of claim 1, wherein the support member [~~is formed of~~] comprises aluminum.

17. **(Currently Amended)** A superconducting electric motor comprising:

a rotor assembly including [~~at least one~~] a superconducting winding [~~comprising~~] having a high-temperature superconductor, the superconducting winding, in operation, generating flux within the rotor assembly, the rotor assembly configured to operate

in a synchronous mode [~~of operation~~] at temperatures in which [~~wherein~~] the [~~at least one~~] superconducting winding exhibits superconducting characteristics, and

in a steady-state induction mode at temperatures [~~wherein~~] in which the [~~at least one~~] superconducting winding exhibits non-superconducting characteristics;

a cryostat surrounding the rotor assembly to maintain the [~~at least one~~] superconducting winding at cryogenic temperatures; and

induction structure[~~, which~~] that, during operation, carries current at levels sufficient to allow the motor to operate in the steady-state induction mode [~~of operation of the superconducting electric motor~~], the induction structure including:

a laminated support member [~~which~~] that supports [~~the at least one~~] superconducting winding; and

an electromagnetic shield surrounding the cryostat and the [~~at least one~~] superconducting winding.

18. **(Currently Amended)** The superconducting electric motor of claim **17**, further comprising:

a stator assembly electromagnetically coupled to the rotor assembly; and

an adjustable speed drive that provides an electrical signal to the stator assembly.

19. **(Currently Amended)** The superconducting electric motor of claim **18**, wherein the adjustable speed drive provides the stator assembly with a signal at a first frequency [~~to the stator~~] to start the superconducting motor in the synchronous mode, [~~of operation~~] and provides the stator assembly with a signal at a second frequency[~~, less than the first~~

~~frequency~~,] to [~~the stator~~] operate the motor in the steady-state induction mode [~~of operation~~], the second frequency being less than the first frequency.

20. **(Currently Amended)** The superconducting electric motor of claim **17**, wherein the laminated support member includes [~~a plurality of laminations, each~~] laminations lying in a plane parallel to magnetic field flux lines extending through the laminations during operation of the superconducting electric motor.

21. **(Currently Amended)** A method of operating [~~a~~] the superconducting electric motor of claim 1, [~~the type including a rotor assembly including at least one superconducting winding which, in operation, generates a flux within the rotor assembly, and a support member which supports the at least one superconducting winding,~~] the method comprising:

monitoring the temperature of the [~~at least one~~] superconducting winding;

operating the superconducting motor in a synchronous mode at [~~a~~] temperatures in which [~~wherein~~] the [~~at least one~~] superconducting winding exhibits superconducting characteristics; and

operating the superconducting motor in a steady-state induction mode at [~~a~~] temperatures [~~wherein~~] in which the [~~at least one~~] superconducting winding exhibits non-superconducting characteristics.

22. **(Currently Amended)** The method of claim **21**,

wherein operating the superconducting motor in the synchronous mode includes providing an electrical signal to a stator assembly[~~,~~] electromagnetically coupled to the rotor assembly, the signal having a first frequency; and

wherein operating the superconducting motor in the steady-state induction mode includes providing a signal to the stator assembly at a second frequency, the second frequency being less than the first frequency.